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Locating Resources

**Toxicity Levels of Rainfall in Selected Sites of Iligan City**  
    This topic aims to determine the toxicity content of rain. Upon knowing that, we will know how polluted the rain is.

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Unpolluted rain is normally slightly acidic, with a pH of 5.6. **Carbon dioxide (CO2)** from the atmosphere dissolves to form carbonic acid. When pollutants combine with the rain, the acidity increases greatly. Measurements of pH taken in different areas of North America show values of 3.0. …The sulfur and nitrogen oxides are oxidized in the air until they are converted to sulfuric and nitric acids. These acids are then captured by raindrops which fall to the earth as acid precipitation. This process is called deposition. We commonly know this as acid rain, but we can have acidic snow or hail and even acidic dust particles falling from the sky.

*source:* [*http://www.rpi.edu/dept/chem-eng/Biotech-Environ/Environmental/acidrain/acidrain.html*](http://www.rpi.edu/dept/chem-eng/Biotech-Environ/Environmental/acidrain/acidrain.html)

*Name of the creator of the site and the date created: Joanna Rentes, 24-November-1997*

What effect does acid rain have on sea life?

Acid rain is very harmful to the environment. Acid rain damages everything over a period of time because it makes the living things in the environment die. Acid rain affects the life in the water as well as the life on land. It is almost worse in water than on land because the fish that are in the water need the water to breathe. When the water gets polluted, then the fish get sick and end up dying.

All rainwater contains some level of acidity. Acidity is measured by pH, which stands for potential of hydrogen. The pH scale measures the amount of acid in a substance. PH is measured on a scale from 0-14, with 7 being neutral. The lower the number is on the pH scale, the more acidic that substance is. Normal rainwater has a pH of 5.6. When the pH level of rainwater goes below 5.6, it is considered acid rain.   
    *source: http://library.thinkquest.org/CR0215471/acid\_rain.htm*

The two primary sources of acid rain are sulfur dioxide (SO2), and oxides of nitrogen (NOx).  Sulfur dioxide is a colourless, prudent gas released as a by-product of combusted fossil fuels containing sulfur.  A variety of industrial processes, such as the production of iron and steel, utility factories, and crude oil processing produce this gas.  In iron and steel production, the smelting of metal sulfate ore, produces pure metal. This causes the release of sulfur dioxide.  Metals such as zinc, nickel, and copper are commonly obtained by this process.  Sulfur dioxide can also be emitted into the atmosphere by natural disasters or means.  This ten percent of all sulfur dioxide emission comes from volcanoes, sea spray, plankton, and rotting vegetation.  Overall, 69.4 percent of sulfur dioxide is produced by industrial combustion.  Only 3.7 percent is caused by transportation.

*source: http://sites.google.com/site/acidrain1project/*  
  
  
**How you can help to prevent Air Pollution:**

* Carpool- This will help to reduce the number of vehicles on the already congested roads.
* Always keep your car tuned properly so that it remains in a good condition.
* Save energy- Try to use minimum amounts of natural gas and even electricity. Whenever possible, avoid the use of air conditioner and use a fan instead.
* Always buy recycled products.
* Reuse things such as paper and plastic bags, paper etc. This will contribute a lot towards reducing the effects of air pollution and global warming.
* Avoid the use of firecrackers. You don’t really need it to express your feeling of happiness.
* Go in for water-based paints instead of varnishes.
* If you really cannot avoid using your car, plan your work systematically to reduce air pollution.

    *source:* [*http://www.buzzle.com/articles/causes-of-air-pollution.html*](http://www.buzzle.com/articles/causes-of-air-pollution.html)

Ozon is created when volatile organic compounds and nitrogen oxide in the air receive strong sunlight in the state of windlessness and then, make a photochemical reaction. The exhaust gas from cars takes over 85% of the substances causing the ozone, and gas stations, printing houses, incinerators, and power generating plants are major causes too. Ozone has two different features.

As shown on the above figure, ozone, which is crowded in the stratosphere (10~15km on the ground), is good. It absorbs ultraviolet rays, which are harmful for organisms, by 95%~99% so it protects human beings, animals, and plants. If this ozone layer doesn’t exist, powerful ultraviolet rays will directly touch our body, which will cause the skin cancer and cataracts and further, lowers immunity. On the other hand, ozone in the troposphere (within 1km from the surface of the earth) is an uninvited guest. It causes a pain in the heart, coughs, and nausea, and it worsens bronchial trouble, heart diseases, and pulmonary emphysema.  
If an athlete is exposed to 0.003ppm, lower than the standard for issuing ozone warning (0.12mm), for over an hour, his/her play record will go down. Especially, if children or the aged and the weak are exposed to ozone, it will be dangerous.  
    *source:* [*http://eng.me.go.kr/content.do?method=moveContent&menuCode=res\_kid\_cle\_pol\_causes*](http://eng.me.go.kr/content.do?method=moveContent&menuCode=res_kid_cle_pol_causes)